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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,732	12/15/2005	Felipe Martinez	63190A	3731

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EXAMINER	
YAGER, JAMES C	
ART UNIT	PAPER NUMBER
1782	
MAIL DATE	DELIVERY MODE
10/13/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,732	MARTINEZ, FELIPE	
	Examiner	Art Unit	
	JAMES YAGER	1782	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8,9,11-14,17,18 and 20-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6, 8, 9, 11-14, 17, 18 and 20-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed 24 August 2010 has been entered. Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are currently pending in the application. The rejections of record from the office action dated 24 May 2010 not repeated herein have been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025) in view of Heider (US 4,360,556).

Regarding claims 1-6, 8, 9, 11-14, 17, 18 and 20-22, DeVaudreuil discloses a foam sheet comprising 1 to about 90 weight percent of LLDPE and 10 to 99 weight percent of LDPE (i.e. a film consisting of one or more foamed polyolefin sheet; clearly overlapping wherein the sheet is made from a blend comprising 10-90 percent by weight LLDPE and 90-10 percent LDPE; clearly overlapping wherein the blend is made from 50 percent to 90 percent by weight of LLDPE; clearly overlapping wherein the blend contains about 70 percent LLDPE) (C2/L60-65), wherein the LLDPE has a specific gravity of about 910 to about 940 kg/m.sup.3 and an MI of less than about 10 dg/min (i.e. clearly overlapping wherein the LLDPE has a density in the arrange of 0.900 to 0.930 and an MI in the range of 2 and 6) (C3/L60-65, C4/L10-13), wherein the LDPE has a specific gravity of from about 915 to about 925kg/m.sup.3 and an MFI of from about 0.2 to about 3.8 dg/min (i.e. wherein the LDPE has a density in the range of 0.917 g/cc to 0.923 g/cc and an MI in the range of from 0.2 to 6 g/10min) (C4/L50-55), wherein the thickness is less than about 13mm (i.e. clearly overlapping wherein the sheet is 3 to 8mils thick; clearly overlapping wherein the sheet is about 3 mils thick; clearly overlapping wherein the sheet is less than 3 mils thick) (C7/L4-8).

DeVaudreuil does not disclose that the foamed polyolefin sheet has a density reduction of from 10 to 50 percent compared to a non foamed sheet of the same

composition or that the sheet has a density reduction of at least 20 percent compared to a non foamed sheet of the same composition.

Heider discloses a foamed low density polyethylene sheet having a density reduction of about 10 to 20 percent over unfoamed sheet material (C1/L65-C2/L2, C2/L27-32). Heider further discloses that for this density reduction, the properties, such as impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation, are not proportionately reduced (C2/L28-42).

DeVaudreuil and Heider are analogous art because they both teach about foamed sheets comprising LDPE. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the amount of density reduction of Heider in the foam sheet of DeVaudreuil in order to provide a foam sheet that maintains good impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation.

Given that the foamed layer of modified DeVaudreuil is made of the same materials in the same proportions of the same thickness and density as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr/mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr; having an MD tear strength of at least 50gr/mil.

Given that modified DeVaudreuil does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has no crosslinking.

Although modified DeVaudreuil does not disclose that the film is a blown film or that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 as claimed, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, "although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product", *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed blown film or the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that modified DeVaudreuil meets the requirements of the claimed sheet, DeVaudreuil clearly meets the requirements of present claims 1, 12, 13, 17, 21 and 22.

While modified DeVaudreuil fails to exemplify the presently claimed thickness of the sheet nor can the claimed thickness be "clearly envisaged" from DeVaudreuil as

required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed thickness and the thickness disclosed by DeVaudreuil, absent a showing of criticality for the presently claimed thickness, it is urged that it would have been within the bounds of routine experimentation, as well as the skill level of one of ordinary skill in the art, to use 3 to 8mils thick; 3 mils thick; or less than 3 mils thick which is both disclosed by DeVaudreuil and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

5. Claims 12 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025) in view of Heider (US 4,360,556), as applied to claims 1 and 17 above, in further view of Hughes et al. (US 3,963,403).

Regarding claims 12 and 21, modified DeVaudreuil discloses all of the claim limitations as set forth above. Modified DeVaudreuil does not specifically disclose that the foam layer is made using a land length to die gap ratio of less than 25.

Hughes discloses a pipe made from foam plastic (C1/L13-15) that is made using a low land length to die gap ratio, optimally 2:1 (C2/L45-55). Hughes discloses that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a stronger and leak resistant wall (C1/L48-51).

DeVaudreuil and Hughes are analogous art because they both teach about articles made of foamed plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the land length to die gap ratio of 2 as disclosed by Hughes in the process of making the sheet of modified DeVaudreuil to provide a sheet that is stronger and leak resistant.

Response to Arguments

6. Applicant's arguments, with respect to whether there is support to recite "no crosslinking" in claim 14 have been fully considered and are persuasive. The rejection of claim 14 under 35 U.S.C. 112, first paragraph has been withdrawn.

7. Applicant's arguments filed 24 August 2010 have been fully considered but they are not persuasive.

Applicant argues that the film of DeVaudreuil is structurally different from a blown film because there are structural differences between cast films and blown films as evidenced by http://www.packageit.com/index.php?option=com_content&view=article&id=111&Itemid=185.

However, the evidence presented is not commensurate in scope with the prior art given that DeVaudreuil does not disclose a cast film, but rather discloses a film that is extruded through a die into a lower pressure region, then formed by forced air so that

the resulting bubble diameter to the diameter of the annular die opening is in the ratio from about 1.8 to about 4.5 and then drawn over a cooling mandrel (C12/L20-30).

Applicant argues that the thickness of DeVaudreuil is from 0.5 mm to 13 mm and therefore does not overlap the claimed range.

As set forth above, DeVaudreuil discloses that the thickness is less than about 13mm (i.e. clearly overlapping wherein the sheet is 3 to 8mils thick; clearly overlapping wherein the sheet is about 3 mils thick; clearly overlapping wherein the sheet is less than 3 mils thick) (C7/L4-8).

It is noted that "nonpreferred disclosures can be used. A nonpreferred portion of a reference disclosure is just as significant as the preferred portion in assessing the patentability of claims." In re Nehrenberg, 280 F.2d 161, 126 USPQ 383 (CCPA 1960).

Applicant argues that the upper limit of thickness disclosed by DeVaudreuil is 64 times higher than the upper limit of the present claims.

Regardless of how high the upper limit of DeVaudreuil is, it is merely the upper limit. Given that DeVaudreuil does not specify a lower limit, every value between 0 and 13mm is within the range of DeVaudreuil.

Applicant argues that the materials of DeVaudreuil will not have the tear strength recited in the present claims and points to the Examples of DeVaudreuil which have lower MD tear strength than required by the instant claims.

Examiner does not argue that the film of DeVaudreuil has an MD tear strength of at least 150 gr/mil.

Examiner argues that **modified** DeVaudreuil meets this limitation.

As set forth above, given that the foamed layer of **modified** DeVaudreuil is made of the same materials in the same proportions of the same thickness and density as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr/mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr; having an MD tear strength of at least 50gr/mil.

Applicant argues that DeVaudreuil does not disclose density reduction of from 10 to 90%.

Examiner agrees that DeVaudreuil does not disclose density reduction of from 10 to 90%, which is why Heider was used to teach this limitation.

Applicant argues that Heider does not discuss blown films, teaches a range of thickness of 14 to 18 mils and does not provide numerical guidance as to tear strength.

However, note that while Heider does not disclose all the features of the present claimed invention, Heider is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely a foamed low density polyethylene sheet having a density reduction of about 10 to 20 percent over unfoamed sheet material (C1/L65-C2/L2, C2/L27-32). Heider further discloses that for this density reduction, the properties, such as impact resistance, coefficient of friction, ductility, tear resistance, environmental

stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation, are not proportionately reduced (C2/L28-42), and in combination with the primary reference, discloses the presently claimed invention.

Applicant argues that one of skill in the art would not look to Heider to modify DeVaudreuil because the films of Heider and DeVaudreuil have different end uses and reducing the density reduction of the film of DeVaudreuil would make the film less resilient and therefore less effective for intended function.

Given that DeVaudreuil does not recite one specific use for the film but rather that the film would be useful to perform many different functions, it would not be unreasonable to assume that good impact resistance, coefficient of friction, ductility, tear resistance, environmental stress cracking resistance, elastic modulus, yield stress, yield strain, ultimate strength and ultimate elongation would be desirable for some if not all functions.

Applicant argues that the thickness of the film is not a result effective variable because certain desirable properties decrease as the film thickness decreases and there is a limit to the thinness available through routine optimization.

Applicant's assertion that a certain level of thinness would not be desirable appears to further support the examiner's assertion that thickness of the film is within the bounds of routine experimentation. Applicant provides no evidence that the instant thickness could not be achieved through routine experimentation.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YAGER whose telephone number is (571)270-3880. The examiner can normally be reached on Mon - Fri, 7:30am-5pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571 272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/
Supervisory Patent Examiner, Art Unit 1785

JY 10/5/10